NCCS Snapshot
The Week of May 21, 2007

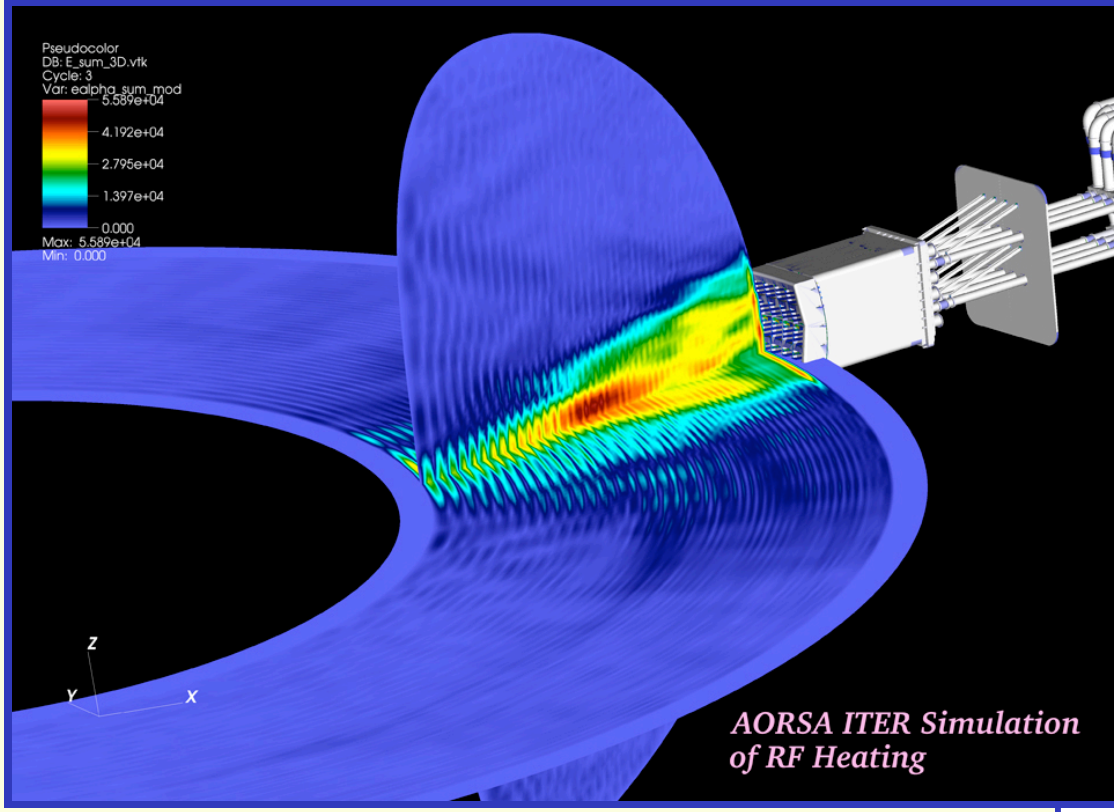
NATIONAL CENTER
FOR COMPUTATIONAL SCIENCES

Oak Ridge National Laboratory
U.S. Department of Energy

Fusion Team Reaches 73 TF on Jaguar

- Team led by Fred Jaeger and Lee Berry of ORNL
- AORSA code calculates
  - the interaction between radio waves and particles in a fusion plasma
  - the current produced by the interaction
- Code achieves remarkable results on Jaguar
  - Used 22,500 processors on Jaguar
  - Achieved 73 teraflops
  - Simulated 450-by-450 mesh containing more than 200,000 individual cells

AORSA code simulates use of radio waves to heat and control ITER reactors



NCCS Staffers Featured at Cray Users Meeting

- Cray User Group 2007 meeting held May 7–10 in Seattle
- Theme was "New Frontiers" in recognition of the technological advances enabled by high-performance computing
- NCCS staffers were well represented among the presenters, providing a wide range of expertise on Cray's XT architecture

Seattle meeting focuses on HPC advances in technology and engineering

NCCS Staffers Discuss HPC for Nuclear Applications

Kothe & Kendall participate in CESC2007 conference

- 2007 Computational Engineering and Science Conference held in Washington, D.C.
- Focus was on bringing high-performance computing resources to nuclear energy and reactor simulation
- NCCS Director of Science Doug Kothe chaired the session entitled "HPC Systems and Nuclear Energy"
- Scientific Computing Group leader Ricky Kendall presented a talk entitled "How Will I Get My Code to Scale on the Cray XT System (or Any Big Machine)?"